Abstract

The present invention provides nucleic acid sequences coding for the Cryptomeria japonica major pollen allergen *Cry j* I, *Cry j* II, *Jun s* I and *Jun v* I and fragments or peptides thereof. The present invention also provides purified *Cry j* I, *Cry j* II, *Jun s* I and *Jun v* I and at least one fragment thereof produced in a host cell transformed with a nucleic acid sequence coding for *Cry j* I, *Cry j* II, *Jun s* I and *Jun v* I or at least one fragment thereof, and fragments of *Cry j* I, *Cry j* II, *Jun s* I or *Jun v* I or at least one fragment thereof, and fragments of *Cry j* I, *Cry j* II, *Jun s* I or *Jun v* I prepared synthetically. *Cry j* I, *Cry j* II, *Jun s* I and *Jun v* I and fragments thereof are useful for diagnosing, treating, and preventing Japanese cedar pollinosis. The present invention also provides isolated peptides of *Cry j* I and *Cry j* II. Peptides within the scope of the invention comprise at least one T cell epitope, or preferably at least two T cell epitopes of *Cry j* I or *Cry j* II. The invention also pertains to modified peptides having similar or enhanced therapeutic properties as the corresponding naturally-occurring allergen or portion thereof but having reduced side effects. Methods of treatment or of diagnosis of sensitivity to Japanese cedar pollens in an individual and therapeutic compositions comprising one or more peptides of the invention are also provided.